polyvinylacetate emulsion, or equivalent.

- (d) All hardwood joints must be mitered, or equivalent, reinforced with No. 10 cement-coated nails space on nominal 15 cm (6-inch) centers.
- (e) All plywood joints must be butttype, or equivalent, reinforced with No. 10 cement-coated nails spaced on nominal 15 cm (6-inch) centers.
- (f) The angles and strapping of the metal frame must be spaced such that separation distances do not exceed 15 cm (6 inches).
- (g) The lid must be of the same material as the box and fabricated in such a manner that closure forms a mitered joint with the hardwood box and 2 stepped-joints with the plywood boxes.

[Amdt. 178–35, 39 FR 45253, Dec. 31, 1974. Redesigntated by Amdt. 178–97, 55 FR 52716, Dec. 21, 1990, as amended by 66 FR 45387, Aug. 28, 2001]

§178.364-3 Closure.

Closure for the protective overpack must be provided by at least 4 mild steel hinges formed from minimum 2.5 cm (1 inch) \times 5 mm ($\frac{3}{16}$ inch) bar stock. Hinge pins must be minimum 6 mm ($\frac{1}{4}$

inch) diameter by 13.3 cm ($5\frac{1}{4}$ inches) long mild steel rod drilled at both ends for cotter pins.

[66 FR 45389, Aug. 28, 2001]

§ 178.364-4 Tests.

Prior to each use, each overpack must be visually inspected for defects such as wood checking or splintering weld cracking, corrosion of steel parts, improper joint bonding, or improperly fitting closure lid.

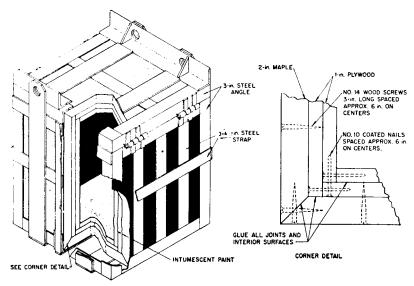
[Amdt. 178–35, 39 FR 45253, Dec. 31, 1974. Redesigntated by Amdt. 178–97, 55 FR 52716, Dec. 21, 1990; 66 FR 45389, Aug. 28, 2001]

§178.364-5 Required marking.

- (a) Marking must be as prescribed in §178.3.
- (b) Marking on the outside of each overpack must include the following:
- (1) "USA-DOT 21WC" and "TYPE B" as appropriate.
 - (2) [Reserved]

[Amdt. 178–35, 39 FR 45253, Dec. 31, 1974. Redesigntated by Amdt. 178–97, 55 FR 52716, Dec. 21, 1990, as amended at 63 FR 37462, July 10, 1998]

§ 178.364-6 Typical assembly detail.



RADIOISOTOPES SHIPPING CASK FIRE AND IMPACT SHIELD

§ 178.500

[Amdt. 178-35, 39 FR 45253, Dec. 31, 1974; 40 FR 2435, Jan. 31, 1975. Redesigntated by Amdt. 178-97, 55 FR 52716, Dec. 21, 1990]

Perform-Subpart L—Non-bulk ance-Oriented **Packaging Standards**

SOURCE: Amdt. 178-97, 55 FR 52717, Dec. 21, 1990, unless otherwise noted.

§178.500 Purpose, scope and defini-

- (a) This subpart prescribes certain requirements for non-bulk packagings for hazardous materials. Standards for these packagings are based on the UN Recommendations.
- (b) Terms used in this subpart are defined in §171.8 of this subchapter.

§ 178.502 Identification codes for packagings.

- (a) Identification codes for designating kinds of packagings consist of the following:
- (1) A numeral indicating the kind of packaging, as follows:
 - (i) "1" means a drum.
 - (ii) "2" means a wooden barrel.
 - (iii) "3" means a jerrican.
 - (iv) "4" means a box.
 - (v) "5" means a bag.
- (vi) "6" means a composite packaging.
- (vii) "7" means a pressure receptacle.
- (2) A capital letter indicating the material of construction, as follows:
- (i) "A" means steel (all types and surface treatments).
- (ii) "B" means aluminum.
- (iii) "C" means natural wood.
- (iv) "D" means plywood.
- (v) "F" means reconstituted wood.
- (vi) "G" means fiberboard.
- (vii) "H" means plastic. (viii) "L" means textile.
- (ix) "M" means paper, multi-wall.
- (x) "N" means metal (other than steel or aluminum).
- (xi) "P" means glass, porcelain or stoneware.
- (3) A numeral indicating the category of packaging within the kind to which the packaging belongs. For example, for steel drums ("1A"), "1" indicates a non-removable head drum (i.e., "1A1") and "2" indicates a removable head drum (i.e., "1A2").

- (b) For composite packagings, two capital letters are used in sequence in the second position of the code, the first indicating the material of the inner receptacle and the second, that of the outer packaging. For example, a plastic receptacle in a steel drum is designated "6HA1".
- (c) For combination packagings, only the code number for the outer packaging is used.
- (d) Identification codes are set forth in the standards for packagings in §§ 178.504 through 178.523 of this subpart.

[Amdt. 178-97, 55 FR 52717, Dec. 21, 1990, as amended by Amdt. 178-106, 59 FR 67519, Dec. 29. 19947

§ 178.503 Marking of packagings.

- (a) A manufacturer must mark every packaging that is represented as manufactured to meet a UN standard with the marks specified in this section. The markings must be durable, legible and placed in a location and of such a size relative to the packaging as to be readily visible, as specified in §178.3(a). Except as otherwise provided in this section, every reusable packaging liable to undergo a reconditioning process which might obliterate the packaging marks must bear the marks specified in paragraphs (a)(1) through (a)(6) and (a)(9) of this section in a permanent form (e.g. embossed) able to withstand the reconditioning process. A marking may be applied in a single line or in multiple lines provided the correct sequence is used. As illustrated by the examples in paragraph (e) of this section, the following information must be presented in the correct sequence. Slash marks should be used to separate this information. A packaging conforming to a UN standard must be marked as follows:
- (1) The United Nations symbol as illustrated in paragraph (e)(1) of this section (for embossed metal receptacles, the letters UN may be applied in place of the symbol):
- (2) A packaging identification code designating the type of packaging, the